Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

for whom the work was written. There is a hint that the scientific results will be specially treated in some later work. The scientist will, however, find this work rich in phenomena of the highest interest, not less in the illustrations than in the text. No work on the great white north has ever been so amply and so accurately illustrated as this. The 800 photographic illustrations tell their own story. Lieutenant Peary was as fortunate as he was industrious in making an unassailable photographic record of his explorations. Neither storms, dangers, nor stress of circumstances seem to have stopped the work of his ever-present kodak. The mechanical execution of the half-tones, while in the main fair, yet leaves something to be desired. Their extreme value would have warranted the use of the best available paper and of the utmost skill in printing. Their execution is sufficiently good, however, to lend an inestimable value and interest to the text.

T. C. C.

United States Geologic Atlas, Folio 41, Sonora, California. 1897.

The folio consists of seven pages of text signed by H. W. Turner and F. L. Ransome, geologists, a topographic map of the district, an historical geology sheet, an economic geology sheet, and a structure section sheet.

The quadrangle represented in this folio lies between the parallels of 37° 30′ and 38° north latitude, and meridians of 120° and 120° 30′ west longitude. It comprises a portion of the western slope of the central Sierra Nevada, chiefly in the foothill region. The quadrangle covers portions of Tuolumne and Mariposa counties, including, also, corners of the valley counties of Stanislaus and Merced. The area is drained chiefly by the Tuolumne and Merced rivers.

The formations are divided into two main groups: The bedrock series, and the superjacent series. The bedrock series is composed of Juratrias and Palæozoic sediments with interbedded lavas and tuffs, and a series of old igneous rocks, chiefly quartz-diorites, serpentine derived from peridotite, and porphyries. The Juratrias rocks are chiefly clay-slates with some sandstone, and are called the Mariposa formation, since the characteristic Jurassic fossils of the formation were first found in Mariposa county. The Mariposa formation is represented by three distinct belts of slates, the most eastern belt of which is remarkable as containing in part the gold-bearing veins of the mother lode. The Palæozoic sediments are called the Calaveras formation. The only evidence of the age of this formation in the limits of the quadrangle consists in rounded crinoid stems found in limestone on Mormon Creek, but the formation is stratigraphically continuous with the Calaveras formation of the Jackson and Yosemite quadrangles, in both of which Carboniferous fossils have been found. The pre-Cretaceous rocks in general are very similiar to those of other portions of the Gold Belt, but two rock types occur here that are rare elsewhere. These two types are certain soda-feldspar dike rocks, called soda-syenite, and a hornblende-pyroxene rock. The soda-feldspar dikes occur chiefly along the mother lode and at many points have been altered by mineral solutions which have deposited calcite, dolomite, pyrite and some gold and silver. East of Jacksonville, at Kanaka Creek, and east of Moccasin Creek, these dike rocks have been extensively exploited for gold. The soda-feldspar dikes (soda-syenite) of the Sonora quadrangle are practically the same as the soda-syenite which forms the lode of the Treadwell mine on Douglas Island in Alaska. The hornblende-pyroxene rock, above referred to, is chiefly remarkable as being apparently unique. The hornblende forms porphyritic crystals in a finer ground mass of augite and hornblende.

The superjacent series is composed of Eocene beds, Miocene beds, andesitic sandstone, auriferous gravels, and various lavas. All of the rocks of the bedrock series were greatly eroded during Cretaceous and early Tertiary time, and upon this old surface of erosion, or approximate peneplain, the river gravels and lavas of the superjacent series were deposited. During Cretaceous and a large portion of Tertiary time the San Joaquin Valley was under water. The sediments deposited at that time, which have been preserved in the Sonora quadrangle, consist of sandstone of Eocene age (Tejon formation), shale, sandstone, clay and rhyolitic tuff of supposed upper Miocene age (Ione formation), and coarse andesitic sandstones and conglomerates which are presumably of Pliocene age. The gravels deposited by the rivers of this period are called the Auriferous river gravels. These river deposits have very largely disappeared through erosion, but are still preserved at some points underneath the lavas of late Tertiary. The best preserved river channel is that underlying the Tuolumne Table Mountain west of Sonora. This mountain owes its table character to a dark basaltic rock (*latite*) which flowed down the valley of the Neocene

Tuolumne river. The low ridges that formed the sides of this Neocene river valley have since that time been worn away by the erosive agencies, leaving the river channel with its hard basaltic capping standing above the surrounding country. At many points tunnels have been run in under the lava capping to penetrate the gravels beds, which have proved highly auriferous at some points. Rhyolite lavas which are so abundant in the Sierra Nevada to the north of the Sonora quadrangle have been found here only in small amount intercalated in the beds of the Ione formation. The andesitic tuffs and breccias, which, at one time, must have covered a large portion of the northern half of the quadrangle, have largely disappeared. The Table Mountain basalt is evidently younger than a portion of the andesite, as it overlies andesitic tuffs and gravels.

Economic geology.— The Sonora quadrangle comprises a portion of the southern part of the mother lode gold district. This remarkable linear system of gold quartz veins extends across the quadrangle in a northwest-southeast direction, and lies partly within the eastern belt of the slates of the Mariposa formation and partly to the east of this belt. Many of the mines are now being operated with good results. Profitable gold quartz veins are also found in the bedrock series, both to the east and west of the mother lode district. The mines in the granodiorite east of Sonora have been worked with varying success for many years. The limestone of the Calaveras formation, which extends from Sonora to the southeast, has been largely metamorphosed into marble, much of which is valuable for building purposes. Chrome-iron deposits occur within the serpentine areas. The sandstones of the Ione and Tejon formations, along the borders of the great valley, are valuable for building stone. The forest zone of the northeastern portion of the quadrangle furnishes valuable timber for the mines and for building purposes.